CALIFORNIA
Water Boards
STATE WATER RESOURCES CONTROL BOARD
REGIONAL WATER QUALITY CONTROL BOARDS

Major Water Board Functions

Water Quality Planning and Regulation

WQCC/WEW

February 23-24, 2009

Where do you start with water quality?

It all begins with

68-16

Anti-degradation policy

STATE WATER RESOURCES CONTROL BOARD

RESOLUTION NO. 68-16

STATEMENT OF POLICY WITH RESPECT TO MAINTAINING HIGH QUALITY OF WATERS IN CALIFORNIA

WHEREAS the California Legislature has declared that it is the policy of the State that the granting of permits and licenses for unappropriated water and the disposal of wastes into the waters of the State shall be so regulated as to achieve highest water quality consistent with maximum benefit to the people of the State and shall be controlled so as to promote the peace, health, safety and welfare of the people of the State; and

WHEREAS water quality control policies have been and are being adopted for waters of the State; and

WHEREAS the quality of some waters of the State is higher than that established by the adopted policies and it is the intent and purpose of this Board that such higher quality shall be maintained to the maximum extent possible consistent with the declaration of the Legislature;

NOW, THEREFORE, BE IT RESOLVED:

1. Whenever the existing quality of water is better than the quality established in policies as of the date on which such policies become effective, such existing high quality will be maintained until it has been demonstrated to the State that any change will be consistent with maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial use of such water and will not result in water quality less than that prescribed in the policies.

2. Any activity which produces or may produce a waste or increased volume or concentration of waste and which discharges or proposes to discharge to existing high quality waters will be required to meet waste discharge requirements which will result in the best practicable treatment or control of the discharge necessary to assure that (a) a pollution or nuisance will not occur and (b) the highest water quality consistent with maximum benefit to the people of the State will be maintained.

Anti-degradation Policy

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WATER QUALITY POLICY, PLANNING, AND STANDARDS

Plans and Policies

- The plans and policies are the foundations on which permit and enforcement actions are based.
- Collectively, the plans and polices describe the beneficial uses of the waters and the quality of the waters necessary to maintain or attain the use.
- Regional Water Board Plans and Policies must be consistent with the State Water Board (Statewide) Plans and Policies.

Total Maximum Daily Loads (TMDLs)

- TMDLs are required by the Clean Water Act for any water not meeting the water quality objectives, or not supporting the beneficial uses established in the Basin Plans.
- TMDLs are remedial actions; they are implementation plans targeted at specific violations of water quality standards. They may address more than one pollutant and/or more than one water body.
- TMDLs are generally adopted into Basin Plans as regulations; under certain conditions a TMDL could be a discharge permit, enforcement action, or inter-agency agreement.

Anti-degradation Policy

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WATER QUALITY POLICY, PLANNING, AND STANDARDS

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POLLUTION PREVENTION AND CONTROL

Municipal and Industrial Wastewater Regulation

NPDES-wastewater

- Discharges to surface water have the potential to affect water quality and impact their beneficial uses.
- NPDES permits contain effluent limitations that prescribe the level of pollutants allowed in the discharge.
  - Technology based limits: best available technology.
  - Water Quality based limits: applied when necessary to achieve water quality standards as set by a basin plan's beneficial uses and water quality objectives.

Stormwater Regulation

NPDES-stormwater

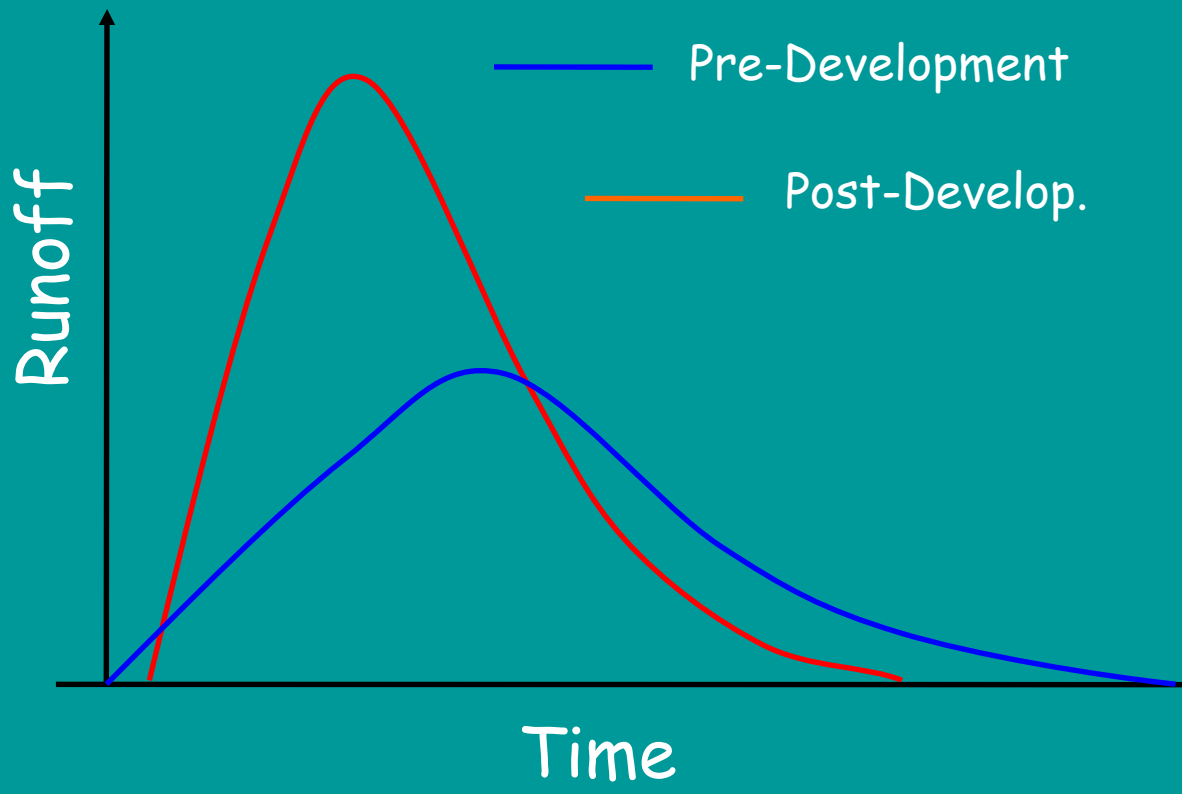
- A non-point source treated as a point source and covered under the Clean Water Act.
- Is the largest current source of pollution in many waters and will need to implement many of TMDLs directly in these waters.
- No direct treatment methods so requires BMPs and source controls.
- Urban runoff creates more problems for maintaining high quality waters than just the pollutants it caries.


Interregional Transportation Strategic Plan
Projected Population Growth by County with Named Urbanized Areas
High Emphasis Routes
Continuation Through Urbanized Areas
Urbanized Areas
Selected National Parks
Counties by Percent Population Growth,1990 to 2040:*
Less than 100%
100% to 199%
200% or Greater
Redding
Chico
Yuba City
Santa Rosa
Napa
Davis
Vacaville
Fairfield
Sacramento
San Francisco--Oakland
Lodi
Stockton
Antioch--Pittsburg
San Jose
Modesto
Merced
Santa Cruz
Watsonville
Seaside--Monterey
Fresno
Salinas
Visalia
Lancaster--Palmdale
San Luis Obispo
Bakersfield
Santa Maria
Lompoc
Santa Barbara
Oxnard--Ventura
Simi Valley
Los Angeles
Hesperia--Apple Valley
Riverside--San Bernardino
Palm Springs
Indio--Coachella
San Diego
Hemet--San Jacinto
*Source: California Department of Finance
Demographic Research Unit
June 1998
Transportation Planning Program

Hydrologic Changes

Urbanization tends to increase storm water runoff:

- peak flows
- volume
- frequency



From Haltiner (2006)

Stormwater Program Overview

- Municipal Program – urban runoff
- Industrial Program – industrial sector specific runoff
- Program Overlap
  - Many industrial sites discharge INTO Municipal Separate Storm Sewer Systems (MS4s)

Municipal Stormwater Permits

- Municipal Separate Storm Sewer Systems (MS4s)
  - Phase I
    - Municipalities > 100,000 population
  - Phase II
    - Small municipalities and others
  - 9th circuit court decision 1992

Industrial Stormwater Permits

- Industrial General Permit (SB Order 97-03-DWQ)
  - Sector/SIC code specific
- Construction General Permit (SB Order No. 99-08-DWQ)
  - Construction and development industry
  - All projects that disturb 1 acre or more of land must obtain coverage

Dredge and Fill Regulation

Wetland and Water Quality Certification Program

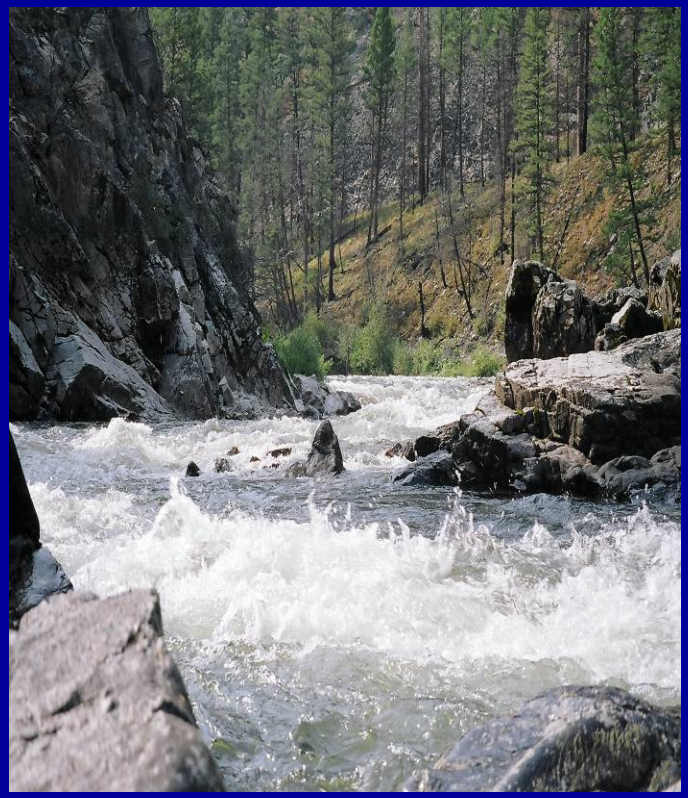
- Regulation of discharge of excavated or fill material into surface waters
- Lead program for wetland, riparian area, and headwater protection more urgently needed due to increasing development pressures
- Expanded responsibilities due to unstable federal jurisdiction
- Certifications also used to enforce stormwater BMPs

Wetland and Water Quality Certification Program *(cont.)*

- The majority of water quality certifications are for CWA Section 404 permits issued by the U.S. Army Corps of Engineers.
- The Corps enforces State permit conditions for all discharges of excavated or fill material into "waters of the U.S." (navigable waters, or tributaries to navigable waters)
- Certifications for discharges into strictly State waters (non-jurisdictional waters) are issued in the form of WDRs or Waivers of WDRs

Wetland and Water Quality Certification Program *(cont.)*

- Staff issue +/- 1,100 permits annually
- Ambrose study found wetland mitigation failing.
- Evidence of high number of non-filers (DFG 1,600 permits:3,000) .
- Funding for compliance and enforcement needed
- Also, unstable federal jurisdiction requires program expansion: work is proceeding on Wetland/Riparian Policy



Wetland and Water Quality Certification Program *(cont.)*

- EO's authorized to approve certifications issued pursuant to the CWA 401
- Board must approve WDRs and Waivers of WDRs for discharges into strictly State waters
- Board is involved in approving enforcement actions
- Board directs and approves water quality plans related to this program

Waste Discharge to Land Regulation (WDR)

- Regulation of all point source discharges of waste, generally to land, that does not:
  - require full containment,
  - involve confined animal facilities,
  - involve discharge of a pollutant to a surface water of the United States that is subject to the federal Clean Water Act.
- Anti-degradation policy applies to groundwater and so discharges to land must meet policy requirements.

Waste Discharge to Land Regulation (WDR)

- Groundwater does not behave like surface water so requires different approaches to maintain high quality.
- Our planning for groundwater has been secondary to surface water and thus is not as robust and does not reflect the complexity of groundwater.
- Our concern for surface water has caused us to drive a lot of pollution discharges out of surface water and to land discharges that affect groundwater.

Kitchen Analogies

River

Lake

Groundwater

Irrigated Agricultural Lands Discharge Regulation

- Discharges from agricultural lands include:
  - irrigation return flow,
  - flows from tile drains, and
  - stormwater runoff.
- These discharges can affect water quality by transporting pollutants, including: pesticides, sediment, nutrients, salts (including selenium and boron), pathogens, and heavy metals, from cultivated fields into surface waters.
  - 9,493 miles of rivers and streams listed as impaired by irrigated agricultural.
  - 513,130 acres of lakes/reservoirs listed as impaired by irrigated agricultural.
  - Approximately 28% are impaired by pesticides.

Irrigated Agricultural Lands Discharge Regulation

- Groundwater bodies have also suffered pesticide, nitrate, and salt contamination
- Agriculture relies on the high quality water that it also is impacting.
- This is truly a non-point source with no direct treatment method.

Confined Animal Facilities (CAF) Regulation

- Approximately 2,200 dairies; average size is approximately 700 cows.
- Hundreds of feedlots, poultry operations, and other animal feeding operations.
- Even when best management practices are used, groundwater is affected at many facilities.
- Increasingly transitioning from waiver programs with non-point source focus to permitting programs.
- Are we maintaining high quality waters? How do you balance with the maximum benefit to the people of the State.

Forest Activities Coordination and Regulation

- Many of our high quality waters emanate on forested lands, much of which are federally controlled.
- Activities on these lands can significantly impair water quality:
  - Logging,
  - Grazing/rangeland management,
  - Recreation (off-highway vehicles, freshwater marinas)
- Must work with the agencies that have the primary responsibility to manage these lands.

Land Disposal Regulation (WDR)

- These wastes must be fully contained to protect water quality.
- Approximately 900 facilities statewide:
  - Landfills
  - Industrial waste piles and ponds,
  - Some mines.
- These facilities are required to meet regulations regarding siting, construction, design, and maintenance.
- To maintain high quality waters, no discharge is allowed.

Anti-degradation Policy

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WATER QUALITY POLICY, PLANNING, AND STANDARDS

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POLLUTION PREVENTION AND CONTROL

POLLUTION REMEDIATIO N AND CLEANUP

Underground Storage Tanks (UST) Site Oversight

- Historically over 45,000 UST have leaked.
  - 32,000 sites remediated,
  - 13,000 active release cases remain.
- Petroleum in soil can act as long-term continuing source of pollution, leaching into groundwater.
- MTBE contaminated municipal water supplies.

Underground Storage Tanks (UST) Site Oversight

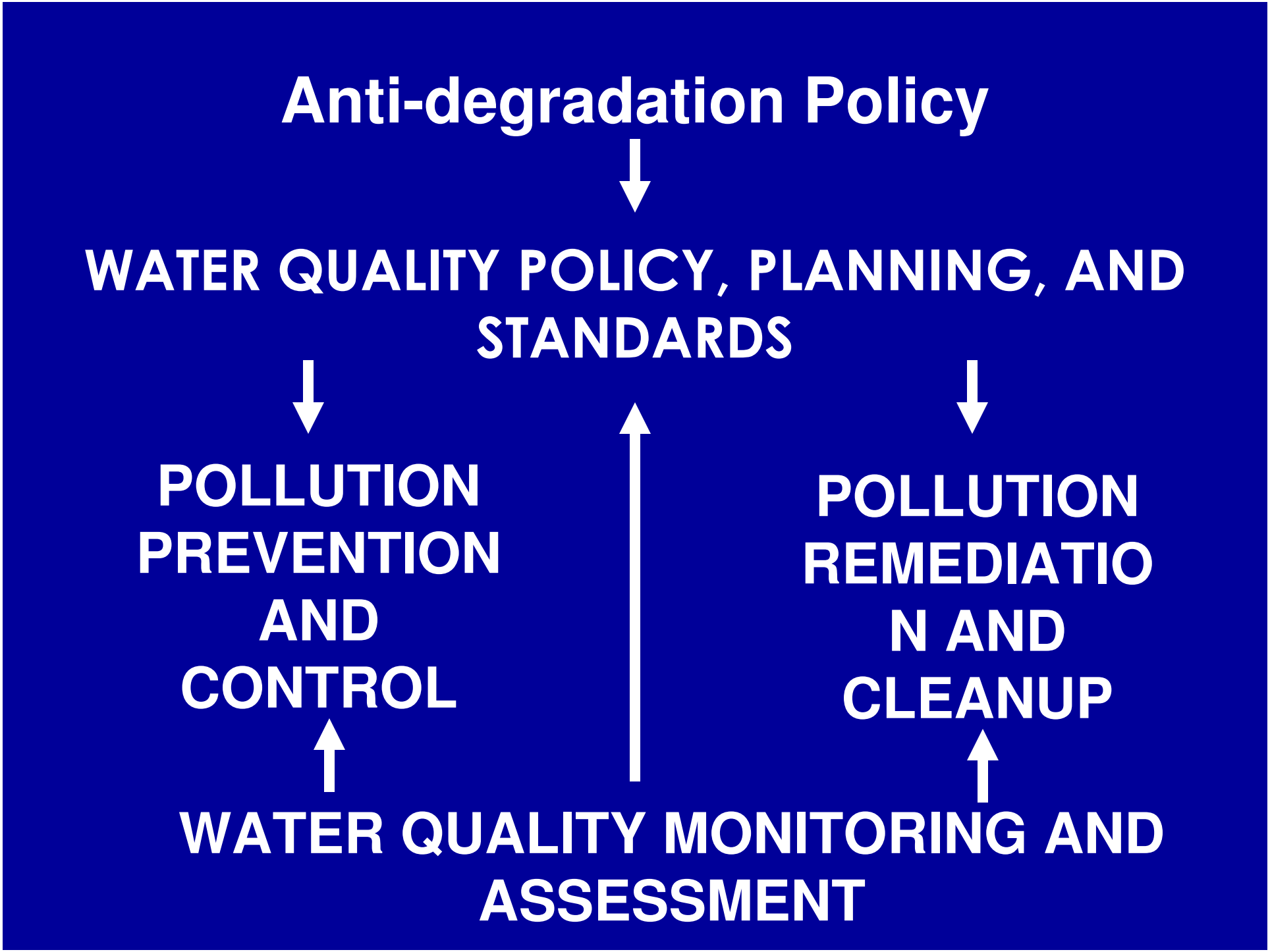
- Clean up soil and groundwater to levels that achieve background water quality, or, if background is not reasonable, an alternative level may be set that is the most stringent level that is economically and technologically feasible and:
  - at least complies with Title 23 California Code of Regulations (CCR) section 2550.4,
  - protects beneficial uses of water, and
  - achieves Basin Plan standards.
- A health or ecological risk assessment may be necessary to comply with Resolution 92-49 and to meet the requirements of Title 23 CCR Section 2550.4.

Department of Defense (DoD) Oversight

- At DoD facilities, leaking underground and aboveground storage tanks, as well as solvents used in aircraft and vehicle maintenance activities, have caused significant groundwater contamination.
- Stormwater running over and/or eroding contaminated soil can also be a significant source of surface water pollution.
- 160 DoD facilities; 4,200 individual sites.

Contaminated Site Cleanup and Brownfield Oversight

- Cleanup of non UST and DoD sites fall into this program.
- About 6,000 open sites (both active and backlogged)
- Mostly provide oversight for voluntary cleanups on a cost-recovery basis.
- Many “orphan” sites not receiving attention.


Anti-degradation Policy
WATER QUALITY POLICY, PLANNING, AND STANDARDS
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WATER QUALITY MONITORING AND ASSESSMENT

Water Quality Monitoring

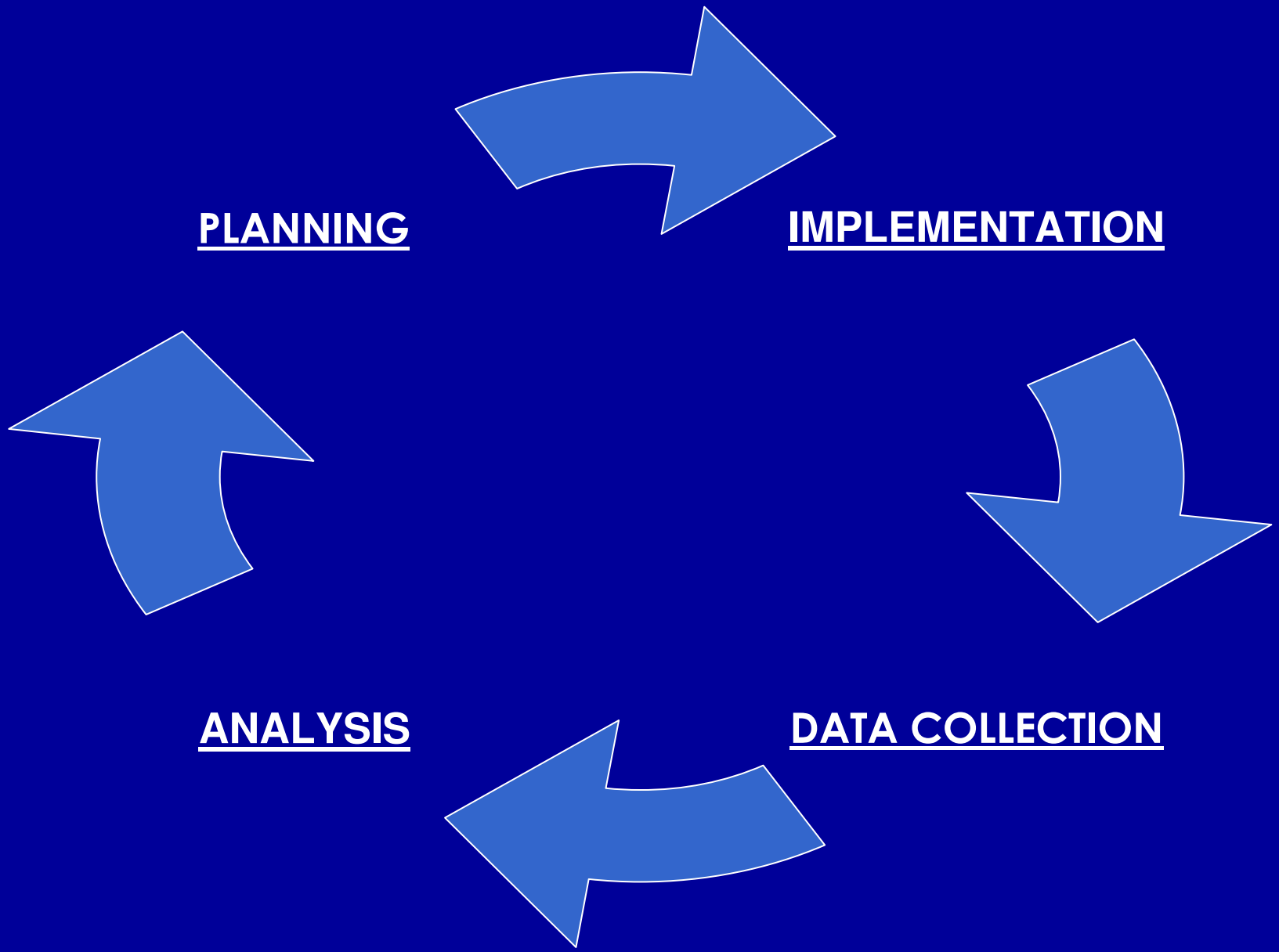
Why do we monitor?

- Assess discharger compliance
- Assess pollutants in the waste stream
- Assess discharge impacts to receiving waters
- Assess ambient water status and trends
- Includes ground and surface waters

Monitoring "Programs"

- SWAMP/SB 1070
- GAMA
- Core Regulatory
- Stormwater
- SFEI– RMP (R2)
- SCCWRP--BIGHT '08
- TSMP
- CCAMP (R3)
- Toxic Hot Spot
- Mussel Watch
- Stream Team
- AB 411--CBI
- Wetlands
- Clean Water Team

The Monitoring and Surveillance Cycle



Anti-degradation Policy is Reactive.

"…existing high quality will be maintained…"

HEALTH ADVISORY

AVOID WATER CONTACT ACTIVITIES

Due to the presence of elevated levels of bacteria, the San Luis Obispo County Health Dept. advises that you avoid contacting and ingesting the water.

Environmental Health Division (805) 781-5544

Anti-degradation Policy is Reactive.

"…existing high quality will be maintained…"

Need to be Proactive with our Decisions in the Future!

Resolutions 2005-0006 and 2008-0030 require that Sustainability be included:

"Directs Water Boards' staff to require sustainable water resources management such as LID and climate change considerations, in all future policies, guidelines, and regulatory actions"

Water Use Efficiency

- The use of recycled water, desalinated water, and the push for water conservation are continually increasing as the State's population grows and water availability is reduced by environmental constraints and supply reduction due to dryer weather patterns.
- Water use efficiency activities such as recycling water or desalination have impacts on water quality that require regulation by the Water Boards.
- Discharging wastewater to the ocean – WASTE AND UNREASONABLE USE?
  - Require us of recycled water instead of discharge
  - Require storm water reuse and low-impact development in storm water permits

SUSTAINABILITY